

REMARKS

Summary of Claim Status

Claims 1-6 and 8-28 are pending in the present application. Claims 1-4, 8-13, 16-18, 20-23, and 26-27 are rejected for the reasons discussed below. Claims 5-6, 14-15, 19, 24-25, and 28 are objected to as depending from a rejected base claim, but indicated as allowable if properly rewritten in independent form. Applicants thank the Examiner for this acknowledgement of patentable subject matter.

Applicants respectfully request favorable reconsideration of the claims and withdrawal of the pending rejections and objections in light of the following discussion.

Rejections Under 35 U.S.C. § 102

Claims 1, 8-10, 16-17, and 26-27 are rejected under 35 U.S.C. § 102(e) as being anticipated by Yip et al., U.S. Patent Application Publication No. 2001/0032318 ("Yip"). With respect to Claim 1, the Examiner stated:

Yip discloses an apparatus and method for protecting configuration data in a programmable device comprising a decryptor for decrypting an encrypted bitstream (Fig. 1, element 21); an address indicator for indicating an address into which configuration data will be loaded (page 4, paragraph [0032]; Fig. 2, element 42); and a decryption algorithm implemented by the decryptor, wherein the decryption algorithm uses data (Fig. 2, element 48) from the address indicator for decrypting the encrypted bitstream (page 3, paragraph [0031]).

Office Action at page 3, ¶4(a).

Applicants thank the Examiner for an explicit and clear description of how Yip is being read. Applicants, however, respectfully disagree and traverse this rejection.

Independent Claim 1

Applicants respectfully submit that Yip does not disclose each and every element recited in Claim 1, and therefore does not anticipate Claim 1. First, the Examiner cites two separate elements, namely elements 42 and 48 of Fig. 2 of Yip, as corresponding to an address indicator for indicating an address into which configuration data will be loaded and data from the address indicator. It is unclear,

however, how element 48 of Yip is considered data from element 42. As shown in Yip, a top line 42 of a chart 40 merely indicates a bit position, whereas element 48 is a secret sequence. See Yip at ¶[0032]. Thus, secret sequence 48 of Yip is not data from an address indicator.

Moreover, the encryption/decryption described in Yip is not a decryption algorithm that uses data from an address indicator. Yip, in fact, describes a method where (1) encrypted data is read from an external location, (2) a secret sequence is read from nonvolatile memory, and (3) logic values of the encrypted data are toggled at positions corresponding to values of 1 in the secret sequence (for example by an exclusive OR operation). See Yip at ¶[0033]. Thus in Yip, data is encrypted and decrypted by an exclusive OR operation between the data and a known hidden sequence. There is no teaching or suggestion in Yip that address data from an address indicator is used in a decryption algorithm. As Applicants understand Yip, Fig. 2 is merely a chart that indicates how data in row 1 (element 44) is combined with data in row 3 (element 48) to produce the data in row 2 (element 46). Apparently, the line 42, which is described as showing the bit position (or address) of individual bits, is merely used as a convenient tool for describing the figure. That is, Yip uses top line 42 merely to help the reader understand an example, as evidenced by the use of the bit positions to identify positions 7 and 14-16 (corresponding to elements 50 in the figure) in paragraph [0032] of Yip.

Thus, Applicants respectfully submit that Yip does not teach or even suggest the invention recited in Claim 1, and Applicants respectfully request allowance of Claim 1.

Dependent Claims

Claims 8-10 depend from Claim 1, and thus include all of the limitations of Claim 1. Applicants believe Claim 1 is allowable for the reasons set forth above. Therefore, for at least the same reasons, Applicants believe Claims 8-10 are also allowable, and respectfully request allowance of Claims 8-10.

Claims 16-17 depend from Claim 11, and thus include all of the limitations of Claim 11. For reasons set forth in detail below, Applicants believe Claim 11 is

allowable. Therefore, for at least the same reasons, Applicants believe Claims 16-17 are also allowable, and respectfully request allowance of Claims 16-17.

Claims 26-27 depend from Claim 21, and thus include all of the limitations of Claim 21. For reasons set forth in detail below, Applicants believe Claim 21 is allowable. Therefore, for at least the same reasons, Applicants believe Claims 26-27 are also allowable, and respectfully request allowance of Claims 26-27.

Rejections Under 35 U.S.C. § 103

Claims 2, 4, 12-13, and 22-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yip in view of Kean, U.S. Patent Publication No. 2001/0015919 ("Kean"). Claims 11, 18, and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kean in view of Yip. Claims 3 and 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kean in view of Yip. Applicants respectfully disagree and traverse the rejection with regard to all claims.

Independent Claims 11 and 20

With respect to Claim 11, the Office Action admits that Kean fails to disclose decrypting the configuration bitstream in the PLD using the address from the configuration bitstream. Office Action at page 5, ¶7(a). The Office Action further alleges that Yip discloses decrypting the bitstream using the address from the configuration bitstream. Applicants respectfully disagree with this characterization of Yip. As set forth above with respect to Claim 1, Yip does not teach decrypting using an address. Yip, in fact, describes an encryption/decryption scheme that uses a secret sequence that is XOR'd with the data to be encrypted/decrypted. There is no use of any address information in the algorithm described in Yip, much less the use of an address from a configuration bitstream. Yip does not even mention, much less teach or suggest that a configuration bitstream includes any address information. Bit position information is used in Yip merely as a convenient way to establish an association between encrypted data and a secret sequence stored in nonvolatile memory. Therefore, Applicants believe Claim 11 is allowable over any combination of Kean and Yip, and allowance of Claim 11 is respectfully requested.

Independent Claim 21

With respect to Claim 21, the Office action cites Yip as disclosing decrypting a configuration bitstream in a PLD using the address from the configuration bitstream. Office Action at page 7, ¶ 8(a). Applicants respectfully disagree, and submit that Yip does not teach or even suggest such a feature. Yip, in fact, never even mentions that a configuration bitstream may contain any address information, much less teaches that any such address information could be used by a decryptor to decrypt an input configuration bitstream as recited in Claim 21. As noted in greater detail above, the bit position information in Yip is merely a convenient tool to refer to bits in encrypted data and a secret sequence. Nothing in Kean cures this failing of Yip. Therefore, Applicants believe Claim 21 is allowable over the cited references, and Applicants respectfully request allowance of Claim 21.

Dependent Claims

Claims 2-4 depend from Claim 1, and thus include all of the limitations of Claim 1. Applicants believe Claim 1 is allowable for the reasons set forth above. Therefore, for at least the same reasons, Applicants believe Claims 2-4 are also allowable, and respectfully request allowance of Claims 2-4.

Claims 12, 13, and 18 depend from Claim 11, and thus include all of the limitations of Claim 11. Applicants believe Claim 11 is allowable for the reasons set forth above. Therefore, for at least the same reasons, Applicants believe Claims 12, 13, and 18 are also allowable, and respectfully request allowance of such claims.

Claims 22-23 depend from Claim 21, and thus include all of the limitations of Claim 21. Applicants believe Claim 21 is allowable for the reasons set forth above. Therefore, for at least the same reasons, Applicants believe Claims 22-23 are also allowable, and respectfully request allowance of Claims 22-23.

Objections

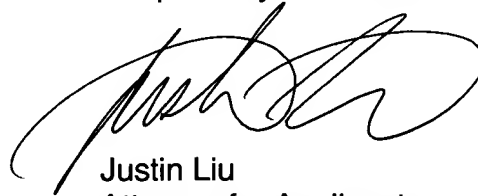
Claims 5-6, 14-15, 19, 24-25, and 28 are objected to as being dependent from a rejected base claim, but indicated as otherwise allowable. Applicants thank the Examiner for this acknowledgement of allowable subject matter.

Applicants believe that all rejections have been overcome by the above remarks and that these objections have therefore been overcome. Therefore, Applicants respectfully request allowance of Claims 5-6, 14-15, 19, 24-25, and 28.

Conclusion

In light of the above remarks, Applicants believe that Claims 1-6 and 8-28 are in condition for allowance, and allowance of the application is therefore requested. If action other than allowance is contemplated by the Examiner, the Examiner is respectfully requested to telephone Applicants' attorney, Justin Liu, at 408-879-4641.

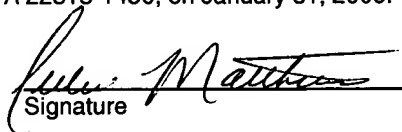
Respectfully submitted,



Justin Liu
Attorney for Applicants
Reg. No. 51,959

I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, P.O. BOX 1450, Alexandria, VA 22313-1450, on January 31, 2006.

Julie Matthews
Name


Signature